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Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in this application:

Listing of Claims:

1. (Currently Amended) A method for preparing a flexographic printing plate, the method comprising:

mounting a printing plate comprising a photosensitive imageable layer on a cylindrical drum;  
and,

obtaining, in a controller, electronic data corresponding to a location of at least one edge of the printing plate; and

while the printing plate is on the drum:

applying a surface mask layer to the printing plate, the surface mask layer masking a surface of the photosensitive imageable layer;

applying an edge masking layer to the at least one edge ~~of the printing plate~~, the edge masking layer masking at least a portion of ~~at least one edge of the photosensitive imageable layer on the at least one edge~~; and,

patterning the surface mask layer;

wherein applying an the edge masking layer ~~is performed in response to at least one of: image data, format data, data relating to one or more dimensions of the printing plate; data relating to one or more edge locations of the printing plate; data relating to one or more dimensions of the photosensitive imageable layer; and data relating to one or more edge locations of the photosensitive imageable layer~~ comprises automatically applying the edge masking layer in the location of the at least one edge under control of the controller.

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2. (Original) The method of claim 1 wherein both the surface mask layer and the edge masking layer are formed from a material having the same composition.
3. (Original) The method of claim 1 comprising irradiating the edge masking layer to form an edge mask area.
4. (Original) The method of claim 1 wherein patterning the surface mask layer comprises imagewise irradiating the surface mask layer.
5. (Original) The method of claim 1 wherein the printing plate comprises a continuous photopolymer sleeve.
6. (Original) The method of claim 1 wherein the printing plate comprises one or more plate sections applied to a tubular sleeve, each plate section comprising a photosensitive imageable layer.
7. (Original) The method of claim 1 comprising exposing at least a portion of the photosensitive imageable layer to actinic radiation.
8. (Original) The method of claim 7 wherein exposing at least a portion of the photosensitive imageable layer to actinic radiation is performed while the printing plate is on the drum.
9. (Original) The method of claim 7 wherein exposing at least a portion of the photosensitive imageable layer to actinic radiation is performed after removing the printing plate from the drum.

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10. (Original) The method of claim 7 comprising, after exposing at least a portion of the photosensitive imageable layer to actinic radiation, removing portions of the photosensitive imageable layer to form a relief image.
11. (Currently Amended) A method for preparing a flexographic printing plate, the method comprising:  
mounting a printing plate comprising a photosensitive imageable layer on a cylindrical drum;  
and,  
while the printing plate is on the drum:  
applying a surface mask layer to the printing plate, the surface mask layer masking a surface of the photosensitive imageable layer;  
applying an edge masking layer to at least one edge of the printing plate, the edge masking layer masking at least a portion of at least one edge of the photosensitive imageable layer; and,  
patterning the surface mask layer;  
wherein applying an edge masking layer is performed in response to at least one of: image data; format data; data relating to one or more dimensions of the printing plate; data relating to one or more edge locations of the printing plate; data relating to one or more dimensions of the photosensitive imageable layer; and data relating to one or more edge locations of the photosensitive imageable layer and the method of claim 1 wherein the at least one edge of the photosensitive imageable layer comprises a bevelled profile, the bevelled profile having a bevel angle of less than 90°.
12. (Original) The method of claim 11 comprising cutting the bevelled profile on an automated cutting table in accordance with format data supplied to a controller associated with the automated cutting table.

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13. (Currently Amended) The method of claim 2 wherein ~~applying the surface mask layer to the printing plate and applying the edge masking layer to the at least one edge of the printing plate are performed in a single operation~~ is at least partially completed after commencing, but prior to completion of, applying the surface mask layer to the printing plate.
14. (Original) The method of claim 2 wherein the material having the same composition comprises a negative working material.
15. (Original) The method of claim 14 wherein the negative working material contains carbon.
16. (Original) The method of claim 2 wherein the material having the same composition comprises a positive working material and wherein the method comprises rendering the edge masking layer opaque to actinic radiation by exposing the edge masking layer to radiation.
17. (Original) The method of claim 1 wherein the surface mask layer comprises a positive working material and the edge masking layer comprises a negative working material.
18. (Currently Amended) The method of claim 1 ~~comprising determining, based on format data associated with the printing plate, at least one of: the data relating to one or more edge locations of the photosensitive imageable layer; the data relating to one or more dimensions of the photosensitive imageable layer; the data relating to one or more edge locations of the printing plate, and the data relating to one or more dimensions of the printing plate~~ wherein obtaining, in the controller, electronic data corresponding to the location of the at least one edge comprises determining the location of the at least one edge based on at least one of: format data provided

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to an automated printing plate cutting device; and format data provided to a printing plate mounting device.

19. (Currently Amended) The method of claim 1 comprising ~~determining, using an edge detection sensor, at least one of: the data relating to one or more edge locations of the photosensitive imageable layer; the data relating to one or more dimensions of the photosensitive imageable layer; the data relating to one or more edge locations of the printing plate; and the data relating to one or more dimensions of the printing plate~~ wherein obtaining, in the controller, electronic data corresponding to the location of the at least one edge comprises determining the location of the at least one edge using an edge detection sensor.
20. (Original) The method of claim 19 wherein the edge detection sensor comprises at least one of: an optical sensor; an imaging sensor; a capacitive probe; and a physical contact-based edge detector.
21. (Currently Amended) A method for preparing a flexographic printing plate, the method comprising:
- mounting one or more plate sections to a tubular sleeve, each plate section comprising a photopolymer layer;
- mounting the tubular sleeve with mounted plate sections on a cylindrical drum; ~~and,~~
- obtaining, in a controller, electronic data corresponding to locations of one or more edges of the one or more plate sections; and
- ~~while the sleeve is on the drum and in response to data provided by a~~ under control of the controller, automatically applying an edge masking layer to the one or more edges of the one or more plate sections in the obtained locations, the edge masking layer masking at least a portion of each of the one or more edges of the

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~~photopolymer layers associated with the one or more plate sections.~~

22. (Currently Amended) The method of claim 21 wherein each of the one or more plate sections comprise comprises an integral surface mask layer atop its corresponding photopolymer layer.
23. (Original) The method of claim 21 comprising, while the sleeve is on the drum, applying a surface mask layer to printing areas of the one or more plate sections.
24. (Original) The method of claim 21 comprising applying a surface mask layer to printing areas of the one or more plate sections.
25. (Currently Amended) A method for preparing a flexographic printing plate, the method comprising:  
mounting one or more plate sections to a tubular sleeve, each plate section comprising a photopolymer layer;  
mounting the tubular sleeve with mounted plate sections on a cylindrical drum; and,  
while the sleeve is on the drum and in response to data provided by a controller, applying an edge masking layer to the one or more plate sections, the edge masking layer masking one or more edges of the photopolymer layers associated with the one or more plate sections;  
~~The method of claim 21~~  
wherein the one or more edges of the photopolymer layers comprise a bevelled profile, the bevelled profile having a bevel angle of less than 90°.
26. (Original) The method of claim 25 comprising cutting the bevelled profile on an automated cutting table in

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accordance with format data supplied to a controller  
associated with the automated cutting table.

27. (Currently Amended) The method of claim 21 ~~wherein the data provided by the controller comprises data related to locations of the one or more edges of the photopolymer layers and the method comprises determining the data related to locations of the one or more edges of the photopolymer layers on the basis of format data associated with the one or more plate sections~~ wherein obtaining, in the controller, electronic data corresponding to locations of one or more edges of the one or more plate sections, comprises determining the locations of the one or more edges based on at least one of: format data provided to an automated printing plate cutting device; and format data provided to a printing plate mounting device.
28. (Currently Amended) The method of claim 21 comprising determining locations of the one or more edges of the photopolymer layers one or more plate sections using an edge detection sensor.
29. (Original) The method of claim 28 wherein the edge detection sensor comprises at least one of: an optical sensor; an imaging sensor; a capacitive probe; and a physical contact-based edge detector.
30. (Currently Amended) A method for preparing a flexographic printing plate, the method comprising:  
    mounting a printing plate comprising a photopolymer layer on a cylindrical drum; and  
    obtaining, in a controller, electronic data corresponding to a location of at least one edge of the printing plate; and  
    while the printing plate is on the drum and ~~in response to data provided by a controller:~~

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imagewise applying a patterned surface mask layer to a printing area of the printing plate; and, automatically applying an edge masking layer to the printing plate in the location of the at least one edge under control of the controller, the edge masking layer masking one or more edges of the photopolymer layer at least a portion of the photopolymer layer on the at least one edge.

31. (Original) The method of claim 30 wherein the printing plate comprises a continuous photopolymer sleeve.
32. (Original) The method of claim 30 wherein the printing plate comprises one or more plate sections applied to a tubular sleeve, each plate section comprising a photopolymer layer.
33. (Original) The method of claim 30 comprising exposing at least a portion of the photopolymer layer to actinic radiation.
34. (Original) The method of claim 33 wherein exposing at least a portion of the photopolymer layer to actinic radiation is performed while the printing plate is on the drum.
35. (Original) The method of claim 33 wherein exposing at least a portion of the photopolymer layer to actinic radiation is performed after removing the printing plate from the drum.
36. (Original) The method of claim 33 comprising, after exposing at least a portion of the photopolymer layer to actinic radiation, removing portions of the photopolymer layer to form a relief image.



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37. (Currently Amended) A method for preparing a flexographic printing plate, the method comprising:

mounting a printing plate comprising a photopolymer layer on a cylindrical drum; and,

while the printing plate is on the drum and in response to data provided by a controller:

imagewise applying a patterned surface mask layer to a printing area of the printing plate; and,

applying an edge masking layer to the printing plate, the edge masking layer masking one or more edges of the photopolymer layer; The method of claim 30

wherein the one or more edges of the photopolymer layer comprise a bevelled profile, the bevelled profile having a bevel angle of less than 90°.

38. (Original) The method of claim 37 comprising cutting the bevelled profile on an automated cutting table in accordance with format data supplied to a controller associated with the automated cutting table.

39. (Currently Amended) The method of claim 30 wherein the surface mask layer and the edge masking layer are formed from a material having the same composition and wherein imagewise applying the patterned surface mask layer to the printing area of the printing plate and automatically applying the edge masking layer to the printing plate are performed in a single operation is at least partially completed after commencing, but prior to completion of, imagewise applying the patterned surface mask layer to the printing area of the printing plate.

40. (Currently Amended) The method of claim 30 wherein the data provided by the controller comprises data related to locations of the one or more edges of the photopolymer layer and the method comprises determining the data related to locations of the one or more edges on the basis of format data associated with the printing plate

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obtaining, in the controller, electronic data corresponding to the location of the at least one edge comprises determining the location of the at least one edge based on at least one of: format data provided to an automated printing plate cutting device; and format data provided to a printing plate mounting device.

41. (Currently Amended) The method of claim 30 ~~comprising determining locations of the one or more edges of the photopolymer layer wherein~~ obtaining, in the controller, electronic data corresponding to the location of the at least one edge comprises determining the location of the at least one edge using an edge detection sensor.
42. (Original) The method of claim 41 wherein the edge detection sensor comprises at least one of: an optical sensor; an imaging sensor; a capacitive probe; and a physical contact-base edge detector.
43. (Currently Amended) The method of claim 30 wherein automatically applying the edge masking layer to the printing plate in the location of the at least one edge comprises ejecting liquid from one or more inkjet nozzles.
44. (Currently Amended) A method for preparing a flexographic printing plate, the method comprising:
- mounting a printing plate on a cylindrical drum, the printing plate comprising an integral surface mask layer and a photopolymer layer; and,
- obtaining, in a controller, electronic data corresponding to a location of at least one edge of the printing plate; and
- ~~while the printing plate is on the drum and in response to data provided by a controller:~~
- automatically applying an edge masking layer to the printing plate in the location of the at least

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one edge under control of the controller, the edge masking layer masking at least one edge of the photopolymer layer a portion of the photopolymer layer on the at least one edge; and,

patterning the integral surface mask layer.

45. (Original) The method of claim 44 wherein patterning the integral surface mask layer comprises exposing the integral surface mask layer to an imagewise distribution of radiation.
46. (Original) The method of claim 44 wherein the printing plate comprises a continuous photopolymer sleeve.
47. (Original) The method of claim 44 wherein the printing plate comprises one or more plate sections applied to a tubular sleeve.
48. (Original) The method of claim 44 comprising exposing at least a portion of the photopolymer layer to actinic radiation.
49. (Original) The method of claim 48 wherein exposing at least a portion of the photopolymer layer to actinic radiation is performed while the printing plate is on the drum.
50. (Original) The method of claim 48 wherein exposing at least a portion of the photopolymer layer to actinic radiation is performed after removing the printing plate from the drum.
51. (Original) The method of claim 48 comprising, after exposing at least a portion of the photopolymer layer to actinic radiation, removing portions of the photopolymer layer to form a relief image.

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52. (Currently Amended) A method for preparing a flexographic printing plate, the method comprising:

mounting a printing plate on a cylindrical drum, the printing plate comprising an integral surface mask layer and a photopolymer layer; and,

while the printing plate is on the drum and in response to data provided by a controller:

applying an edge masking layer to the printing plate, the edge masking layer masking at least one edge of the photopolymer layer; and,

patterning the integral surface mask layer; The method of claim 44

wherein the at least one edge of the photopolymer layer comprises a bevelled profile, the bevelled profile having a bevel angle of less than 90°.

53. (Original) The method of claim 52 comprising cutting the bevelled profile on an automated cutting table in accordance with format data supplied to a controller associated with the automated cutting table.

54. (Original) The method of claim 44 wherein the edge masking layer comprises a negative working material.

55. (Original) The method of claim 54 wherein the negative working material contains carbon.

56. (Original) The method of claim 44 wherein the edge masking layer comprises a positive working material and wherein the method comprises rendering the edge masking layer opaque to actinic radiation by exposing the edge masking layer to radiation.

57. (Original) The method of claim 44 wherein the integral surface mask layer comprises a positive working material

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and the edge masking layer comprises a negative working material.

58. (Currently Amended) The method of claim 44 wherein the ~~data provided by the controller comprises data related to locations of the at least one edge of the photopolymer layer and the method comprises determining the data related to locations of the at least one edge on the basis of format data associated with the printing plate~~ obtaining, in the controller, electronic data corresponding to the location of the at least one edge comprises determining the location of the at least one edge based on at least one of: format data provided to an automated printing plate cutting device; and format data provided to a printing plate mounting device.
59. (Currently Amended) The method of claim 44 comprising ~~determining locations of the at least one edge of the photopolymer layer~~ wherein obtaining, in the controller, electronic data corresponding to the location of the at least one edge comprises determining the location of the at least one edge using an edge detection sensor.
60. (Original) The method of claim 59 wherein the edge detection sensor comprises at least one of: an optical sensor; an imaging sensor; a capacitive probe; and a physical contact-based edge detector.
- 61.-69. (Cancelled)
70. (New) The method of claim 21 comprising, while the sleeve is on the drum, applying a surface mask layer to the one or more plate sections, the surface mask layer masking a surface of the photopolymer layer for each of the one or more plate sections, wherein automatically applying the edge masking layer to the one or more edges of the one or more plate sections is at least partially completed after

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commencing, but prior to completion of, applying the surface mask layer to the one or more plate sections.

71. (New) The method of claim 21 comprising, while the sleeve is on the drum, imagewise applying a surface mask layer to the one or more plate sections, the surface mask layer imagewise masking a surface of the photopolymer layer for each of the one or more plate sections, wherein automatically applying the edge masking layer to the one or more edges of the one or more plate sections is at least partially completed after commencing, but prior to completion of, imagewise applying the surface mask layer to the one or more plate sections.